

10 Little Jubbs Rd
Malabar Hill
Bombay.

10. Nov. 1938.

Dear Professor Madhava Rao,

Thank you for your kind letter
of the 7th. I am afraid that I have no
reprints with me here in India at all,
and therefore cannot send you any. They
are all in Cambridge.

I shall try and send you
the Solway reports soon, but they are
rather bulky and it might be a few days
before I get them suitably packed.

My coming to Bangalore has not been
finally settled by the Council yet, but ~~it~~
should it be passed, I expect to be in
Bangalore for a couple of months from the

beginning of January.

In the meantime I would like to draw your attention to the following problem and ask you to let me know if you would care to collaborate with me on it. The problem is to calculate the "Compton effect" of π -rays on charged mesons. The interaction of mesons with electromagnetic radiation is given in my paper. This problem is rather important for by the Weissaker method, it is directly connected with the Bremsstrahlung. I had put a research student in Cambridge onto the latter problem, and now A.H. Woods is helping him. But it is extremely complicated. Moreover, the Weissaker method gives one more physical insight into the problem. So it would be very interesting to know the Compton effect. Could you

perhaps study this problem and start working on it. I am at the moment still engaged

in the spinning ^{particle} ~~electron~~. I have now reason to believe that it is wrong to describe protons by the Dirac equation as far as nuclear theory is concerned.

Returning to the Compton effect, it should be noted that a contribution comes

1) by a second order process from the terms containing e of expression (5-5') of my paper, and

2) by a first-order process from the terms containing e^2 ⁽⁵⁵⁾ of ~~this~~ paper.

2) I have heard from America that some pupils of Oppenheimer have tried ^{the Born's approach} ~~this~~

problem and find that the radiation loss.

increases as E^2 (E energy of meson) whereas

for Dirac particles it increases as E .

Our Compton effect would give an insight
into this, and show why this happens
(if it is true) but this might be
crucial for the meson theory in confirming
or refuting it.

With kind regards

Yr sincerely

H. J. Bhabha



9
F/1417
20.9.38
DEPARTMENT OF NATURAL PHILOSOPHY
THE UNIVERSITY
DRUMMOND STREET
EDINBURGH

87, Grange Loan 7 Sept 1938

Dear Madhava Rao,

Replying your letter from 16th July I wish to tell you that I should like very much to send a contribution to the jubilee volume of the "Proceedings" for Raman's 50th birthday. But I am afraid, your invitation came much too late. I think such invitations ought to be sent out at least a year ahead so that the scientists concerned have time to write a good article. Concerning myself, I have not worked recently on scattering or Raman effect. I was busy until now with some urgent work.

and to-morrow I am going with my wife for a short holiday. When I come back, end of this month, the new term starts immediately, and I am rather doubtful whether I could write even a short article if I had something to write about. But I have made one attempt: I have asked Dr. Kemmer to collaborate with me in applying my reciprocity idea to some 2nd order scattering effects. If he can manage to get some results, we shall write a short article together and send it to you. It is, however, quite uncertain that we shall succeed. In this case I shall write perhaps a few congratulating lines, to be printed in the festival number.

With kind regards, also from my wife,

Yours sincerely

M. Born.



DEPARTMENT OF NATURAL PHILOSOPHY
THE UNIVERSITY
DRUMMOND STREET
EDINBURGH

19 Oct 38.

My dear Madhava Rao,

Many thanks for your letter from 11. Oct. 38.

Here is my contribution to the Raman number;
I hope it is not too fantastical!

I congratulate you very heartily for your
promotion!

I am terribly busy with lecturing and other
things, and I have no time to write to you
a long letter.

With kind regards from both of us to you
and your wife

Yours sincerely

8 Little Gilt Rd
Maddur Hill
Bombay
18 May 1840

My dear Madhava Rao,

Thank you very much for ~~you~~ so
kindly sending me a report ~~of~~ on Mukherji's Thesis.
I have had it typed, written a report on his first
paper, and added a summary of it. I have mentioned
in a covering note that the remarks on papers
2-6 are due to you and that I have complete
faith in your judgement. I think the thesis
will have been as fairly examined as is possible
in India. In my summary of it, I state that
the candidate's exposition is clear & concise. That
he does not show much originality, but that
may perhaps be due to environment. I end
by saying that if the candidate were enabled to
do research for some time ~~in case~~ in contact
with an outstanding scientist in touch with the
newest developments in physics, then he might do

work of much value. I think that is perhaps a fair estimate of the case. The other thesis I examined certainly does not deserve the award of the studentship.

My appointment to Calcutta seems to have appeared in the papers, ^{*} but I have not heard officially from the University yet! In any case, I shall not be going there till the end of July, and intend spending about a fortnight there. I hope to come to Bangalore at the beginning of June. Bombay is terribly hot & damp. I hope B'lore is more pleasant than when I left.

Things in Europe are beginning to look serious, but I still do not believe that the Allies will lose. I hope your reading is going well. As soon as I start writing my book, I shall have a number of problems requiring work. One of them might interest you. I am having a complete rest.

With kind regards

Yours sincerely

H. Bhabha.

P.S. Will you kindly ask Mr C.V. Raman if he has got the answers for my two papers which I sent a week ago? I should also like 6 copies of the reprints of both my papers sent to me at once. (I.e. without errata) (I would), or ask the printer to do

occurred? I should like to see it.

P.S.

About a week ago I sent the invoice
for both my papers to Mr C. V. Ramana. I
hope these ~~may~~ ^{will} be set up at once so that
the slips could be printed off, stuck into the
reprints & then then posted. I hope I won't
have to wait till the end of the month for
this. I ~~should like to~~ must have ~~the~~
proofs of the invoice slips. These may be
sent here. I will return them by return
post after correction.

I also would like to have 6
reprints of ~~copies~~ each of my two papers. Could these
be despatched to me at once (i.e. without the
invoice slips?) I should be grateful if you
could enquire Venkataswamy about this.

F. Little Gibbs Rd.
Malabar Hill

Bombay

27 May 40.

173 Dear Madhava Rao,

I have just returned to
Mr Venkatacharya the corrected proofs of
my errata slips. Unfortunately they still
require a number of corrections. As they
will not have time to send me further
proofs, I have requested that they send
you the corrected proofs together with
also the typescripts of these errata slips.
I should be very grateful if you would
kindly do me the favour of correcting
the same for me. I am anxious that
no single misprint should occur in the

errata slips.

The hot and damp climate
of Bombay has got me down, & I have
broken out with a number of boils which
have troubled me the last few days.
However, they are now subsiding.

I hope your work is going well.
I have got a letter from Pauli about my
question as to the reduction of the Dirac
equation to the Hamilton Jacob eq: when a
g. $\delta p \delta x$ term is present. He says he has
not done this himself, but the result ought
to be that of geometrical optics, giving
for example, two beams in a magnetic field.
I cannot see how this happens, but the problem
might be worth tackling seriously.

With kindest regards

Y. very sincerely
H. J. Bhabha

S.S. I quote Panch "The result of the
polarisation must be similar to polarisation
of this in the presence of a magnetic field
(two different rays with different polarisations
because of the Faraday effect -)"

I shall be in Bangalore soon
after the beginning of June.

I have been expecting to hear
from Sir C. V. but have not done

so. Is he away? Kindly give him
my ^{kindest} ~~best~~ regards

Great Eastern Hotel

Calcutta

2 Dec. 1940.

Dear Madhava Rao,

While in the train I thought
of a slight mistake in our calculations!

$\left| \frac{(f|10|m)(m|10|i)}{E_i - E_m} \right|$ must be proportional to

$\frac{1}{V}$ not \underline{V} as I put down. This is because

the wave functions of the heavy particles, which we

have not given explicitly in the paper, have a

normalising factor $\frac{1}{V}$. Thus, your original expression

with \underline{V} was right for $1 \rightarrow 1$. As a result

$$dQ = \dots V^2 / l^2 d\Omega$$

and not

$$dQ = \dots \frac{1}{V^2} / l^2 d\Omega.$$

Please make these two corrections.

Thank you very much for coming to
see me off. I thought Sir C. V. is conduct a bit
strange at the end when he walked away. I
felt he was offended about something - (don't
know what). Please tell me frankly if he said

any thing to you afterwards - I shall then try & rectify
the matter.

Do I try & get - its paper published
in the Dec. number of the ~~Pan~~ Indian Head.
And there must be no misprints - this time -
not even in the language.

Thank you for your cooperation. I
hope to see you within a couple of months.
With best wishes.

f
H. B. Leake

P.S. Please write to me at the Great Eastern
Hotel & send your letters "To Await Answer"
till the 9th.

THE GREAT EASTERN HOTEL LD.

TELEGRAMS
"GREASTERN CALCUTTA"
CODES
ABC 4TH & 5TH EDITIONS AI AND BENTLEY'S

CALCUTTA 14. Dec. 194

My dear Muelhera Rao,

Thank you for the manuscript of
our paper & the meson manuscript, as also the
Phys. Rev. letter. I find there are some mistakes
in the paper & I hasten to inform you of them.
I also think that it is bad policy to have $c=1$
in part of the paper & $c \neq 1$ in the rest. It is
not even as if the $c=1$ consistently in the
whole of the classical section in the corrections.

I give below, I have therefore added the
appropriate powers of c .
p. 2. line 12 add "(cf. Heitler 1940)" after "classical theory".
p. 3 line 12, insert "constant" before
numerical.

p. 3 line 18 let this read "for a Maxwell field by Bhabha (1940)
and Bhabha & Corben*", and for a meson field by
Bhabha* (1940c) -".

p. 6. third line after (5). "intermediate" instead of "final".
read "of the initial & intermediate states of the whole system".

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CALCUTTA 19

eg. 10. insert $d \sin$ at end.

p. 11, second line before (20), substitute "each of" for "all"
to read "cross-section for each of the four ...".

p. 12. line 1, read "Bhabha in a recent paper (1940c)".

p. 12. line 10, insert c before ω_0 , thus "meson wave
of frequency $c\omega_0$ with ...".

Eq (21). " $\cos c\omega_0 t$ ".

Eq (22). $\frac{H_0^2}{8\pi} \frac{c\omega_0}{(\omega_0^2 - k^2)^{3/2}}$

Eq (23) " $\sin c\omega_0 t$ ".

Eq (24) $|M_1| = \frac{g_2 H_0 \sin \phi}{I c \omega_0}$

p. 13 line third line after (24), substitute "by (23) are" instead
of "by (22) are".

eg (25) change to " $\cos \{ c\omega_0 t - n \sqrt{\omega_0^2 - k^2} \}$ ".

eg (27) $\frac{1}{8\pi} g_2^2 \frac{c\omega_0 (\omega_0^2 - k^2)^{3/2}}{n^4} [n \times M_1]^2$

eg (28) }
eg (30a) }
eg (30b) }
note " $c^2 I^2$ " instead of I
insert c^2 in denominator, i.e. note
 $\frac{c^2 \omega_0^2}{I}$ in place of ω_0^2

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3

p. 16 line 10 read "This is just - $r/M_1 \sin^2 \gamma_1$,"

eg (33c) should read

$$dQ' \} = \frac{g_2^4}{4I^2} \frac{(\omega_0^2 - \kappa^2)^2}{c^2 \omega_0^2} \sin^2 \theta \sin^2 \gamma_1 d\Omega$$

$$= \frac{g_2^4}{4I^2} \frac{(\omega_0^2 - \kappa^2)^2}{c^2 \omega_0^2} \cos^2 \gamma_0 d\Omega$$

p. 17 line 1 substitute "(31)" for "(32)". "cos² γ₀" instead of cos
p. 17 line 2
eg (33b) substitute "c² ω₀²" for "ω₀²" in denominator.

The next equation should read

$$(e.g. [x \times y]) = \dots = r/M_1 \cos \gamma_1 \sin \theta.$$

The next equation

$$dQ' \{ (1/1) \rightarrow (1/1') \} = \frac{g_2^4}{4I^2} \frac{(\omega_0^2 - \kappa^2)^2}{c^2 \omega_0^2} \sin^2 \theta \sin^2 \phi \cos^2 \gamma_1 d\Omega$$

Eq (34c) reads which, by (32) reduces to

$$dQ' \{ (1/1) \rightarrow (1/1') \} = \frac{g_2^4}{4I^2} \frac{(\omega_0^2 - \kappa^2)^2}{c^2 \omega_0^2} \sin^2 \theta \cos^2 \gamma_0 d\Omega$$

Two lines down read "cos² γ₀ by 1/3", instead of "cos² γ₀ by 1/3"

Eq (34b) }
Eq (35) } Substitute "c² ω₀²" for "ω₀²" in denominator
Eq (36a) }

in next line (36b) read

$$\text{Where } \alpha = 3Ic/2g_2^2$$

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4

p 18. fourth line after (26c)

" $E = c h \omega_0$ " instead of " $E = \hbar \omega_0$ "

Eq (27). Write " $c^2 \omega_0$ " for " ω_0 " in denominator

p. 21 line 12 insert "the" before "quantum", to read
"between the quantum".

p 21 line 20, change "would only seriously go wrong due to"
to "would only go wrong seriously due to".

p 22 line 12. "on energy" instead of "of energy".

p 22 line 21 "It shows" should not start

a new paragraph -

Insert "also", thus "It also shows that ..."

p 23 line 1 read "by the factor $3(1 - 4\pi c^2/E)$ for --

p 24 line 9, substitute "Bhabha" instead of "one of us".

p 24 line 16, ~~insert~~ first sentence "Thus on this

assumption the matter of charged masses shows
complete correspondence with the classical theory,

in statics.

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CALCUTTA

19

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A. R. C. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

Head of top of last column of Table

$$(4 g_2'^4 h^4 / 3 \mu^4 c^4 E^2) d\Omega$$

instead of $(\frac{4}{3} g_2'^4 h^4 / \mu^4 c^4 E^2) d\Omega$

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TELEGRAMS
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5 CALCUTTA 19

Following the reference, I think we should follow the Royal Society practice, which is also what I did in my previous papers in the Academy, thus

Bhabha	1938	Proc. Roy. Soc. A,	166, 501-28
	1939	ibid	172, 384-408.
	1940a	Proc. Indian Acad. Sci. A	11, 247-267, 467
	1940b	ibid	11, 347-368, 468.
	1940c	Proc. Roy. Soc. A,	in print.
Heitler	1940	Nature	145, 29-30.

In figure I, the angle θ_0 should be marked as ϕ . Since in the text the axes are referred to as x, y, z , small letters should be used in both figures and not X, Y, Z .

I think this finishes all the errata. Please check the c factors. This you can easily do remembering that

$$g_2 = \text{charge} \times \text{length},$$

$$\omega_0 = 1/\text{length},$$

$$H = E = \sqrt{\text{energy/volume}}$$

I am very keen that the printing of this
 paper should be faultless. I do not mind
 its appearing in the January issue instead of
 the December issue. After all, there is no
 urgent hurry. But under all circumstances
~~then~~ all the above corrections must be carefully
 carried out & no new ones must appear.
 You had better ask for 3 proofs.

I think the figures should be drawn
 beautifully by the Institute artist. I am writing
 to Sir C.V. to this effect. It will look
 much nicer.

I hope you are having a nice time.
 My own health has been rather bad. With
 kind regards,

Yours sincerely
 H. J. Bhattacharya

2 Little Gibbs Rd.
Malabar Hill

Bombay

24 Jan. 41

Dear Madhava Rao,

I am trying to catch today's
mail. I got your proof only yesterday when it
returned.

There are a number of corrections. Most
important are certain mistakes on p. 13, 14 & 15
which I have corrected. I have added a paragraph
at the end of the paper & a line at the
end of the summary.

The alterations in (27) makes the later
references to this formula more intelligible.

There is one correction I have made in
pencil. In (5) you have $(f/l_0/m)(m/l_0/i)$
whereas on top of p. 5 you have $(i/l_0/m)(m/l_0/f)$
Why this change? I think it should be corrected
there and below. Alternately make formula (5) read
 $(i/l_0/m)(m/l_0/f)$. I leave this to you to decide.
The other corrections must be made.

The letter in (4) is capital script - I wrote it
(Greek theta). I should like this changed, but
if they have no such letter, it may be left
as it is.

I hope it is not too late to get
the corrections. ^{otherwise the paper must be delayed till Feb. as some of} through. I am afraid you will
have to get another proof to make sure they
have committed no new mistakes in setting.
I learnt this to my cost when my last
Head. paper came out.

Please reply to this letter. I shall
be in B'ham on the 2nd Feb.

In great haste

H. T. Bleby

Bombay

24 Jan. 41.

Dear Madhava Rao,

I have just posted the corrected
proof of our paper to ^{registered} you. I forgot to mention
one point. The angles γ_0 , ϕ_0 , & θ_0 are
correct as they stand in the proof. I had
made a mistake when I wrote to you last
time.

The point of ε , α , and σ will do, if
there is nothing better to be done about it.

I have got Parker's letter & will give it
to you when I return. I am not satisfied with
Parker's solution: You might tackle this problem
next. I shall only be satisfied when you get
out the equations for the rotation of the sphere
namely

$$\frac{1}{2} \dot{\sigma} = g_2 [\sigma - H]$$

out of the Dirac¹¹ equation with a g_2 term. You
will notice that h has to appear explicitly in the
equation.

Please do not let the paper go through

without the corrections I have sent - about the scattering of positive & negative mesons. What we had there is definitely wrong.

$$\left\{ \begin{array}{l} \gamma^+ + p \rightarrow \left\{ \begin{array}{c} k_2 \\ \gamma^+ + \cancel{\frac{n}{2}} + \gamma^+ \end{array} \right\} \rightarrow \gamma^{+'} + p \\ \gamma^{*-} + p \rightarrow \left\{ \begin{array}{c} n \\ \gamma^- + \frac{1}{2} + \gamma^- \end{array} \right\} \rightarrow \gamma^{-'} + p \end{array} \right.$$

The other case you can also verify.

Please also insert the para. about Heitler & Ma.

Yours sincerely

H. J. Bethe.

(11)

SI - Huns

Cotacamund

10 Nov. 41

My dear Madhava Rao,

There is one very queer point which Ban & I have come across. It is that d^{nd} order processes calculated on the basis of the theory (a) that all the negative energy states of the electron or other Dirac particles (spin $1/2$) are empty is not the same as when calculated on the assumption (b) that all the negative energy states are full. (^{Dirac} ~~vacuum~~ - hole theory). This result is so fundamental that I can hardly believe that all previous workers including myself have made the same mistake. As I see it, assumption (c) gives the Klein - Dirac formula, (b) does not. To my knowledge there is only one occasion on which the discrepancy has been noticed, namely the calculation of the 2^{nd} order self-

energy of an electron by Weisskopf, in which (a) & (b) gave different results. If I am right in thinking that (a) & (b) give different results, then it would be a very severe blow to "hole" theory.

I would therefore like to have an independent check on this point and would therefore be very grateful if you would independently just confirm the difference in sign of one term between (a) & (b).

(b) If you get into touch with ^{Dr.} ~~Dr.~~ ^{Bain} at the Indian Institute of Science, he will explain everything to you. I have written to him.

I shall be in Bham by the 15th & will see you a day or two after that.

With kind regards,

Yr. sincerely
H. J. Sheffer.

UNIVERSITY COLLEGE OF SCIENCE

FROM

PROF. C. V. RAMAN, M.A., D.Sc. (Hon) . .

Palit Professor of Physics

92, UPPER CIRCULAR ROAD,

Dated, Calcutta, the 12th Jan. 1922.

Mr. B.S. Madhava Rao had a brilliant career in the Madras and Mysore Universities before he came to Calcutta, obtaining a first class in the I.Sc. and then standing first in the first class in the B.Sc. examination of the Mysore University. He was then deputed to Calcutta with a scholarship in order to continue his studies for the M.Sc. degree, and in his two years' work has fully sustained the reputation with which he came to this University. At the last M.Sc. examination in Pure Mathematics, he obtained a first class, standing second in the list, and his performance was in some ways even better than that of the man who stood first. Mr. Madhava Rao has also given proof of a distinct ^{gent} ~~gent~~ for mathematical research, and he is, in my opinion, likely to distinguish himself abroad if deputed to Europe. I strongly recommend the grant to him of a foreign scholarship.

Palit Professor of Physics.

SIR C. V. RAMAN, Kt., F.R.S. NOBEL LAUREATE,
M.A., Hon. Ph.D., Hon. D.Sc., Hon. LL.D.

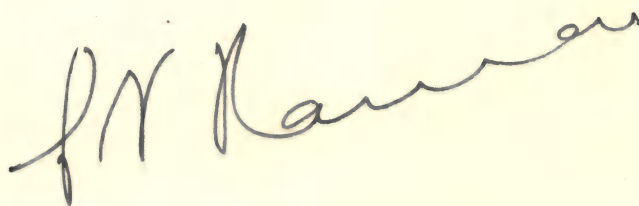
INDIAN INSTITUTE OF SCIENCE,
~~HEBBAL P.O.~~ BANGALORE.
Malleswaram P.O.
30th April 1941.

My dear Prof. Madhava Rao,

I am returning herewith the translation of Tamm's
paper so kindly lent by you.

Could you kindly return to me the number of Physics
Review which you borrowed, as I wish to bind up the volume.

Yours sincerely,



Prof. B. S. Madhava Rao,

Department of Mathematics,

Central College, Bangalore.

Encl.

Sir C.V.Raman, F.R.S., N.L.,
Director.

RAMAN RESEARCH INSTITUTE
HEBBAL POST, BANGALORE 6

Ref: No. 726

28th September, 1955.

My dear Professor Madhava Rao,

I have just received your kind letter of the 27th September. As you are leaving so soon, it is not possible to convene a special meeting of the Council to place on record their appreciation of the very valuable services you have rendered during the many years you have been Secretary to the Academy. I shall however bring up this matter at the next meeting of the Council. Meanwhile, I wish to say how much I regret your departure from Bangalore which weakens the position of the Academy at its headquarters very much.

I hope you will have a good journey to Poona and will find your new job quite agreeable.

Yours sincerely,

C.V. Raman

455
Prof. B.S. Madhava Rao,
32, Kankanahalli Road,
Basavangudi,
BANGALORE 4.



सत्यमेव जयते

MESSAGE

I send my greetings and good wishes to the International Colloquium on Zeta Functions and the South Asian Conference on Mathematical Education which are being organised by the Tata Institute of Fundamental Research in Bombay. This Institute has been recognised by the Government of India as the national centre for advanced study and fundamental research in mathematics and it is appropriate that it should hold this colloquium and conference.

Mathematics is supposed to be a dull subject, but it is increasingly recognised that it is of high importance in scientific developments today. Indeed, mathematical research has widened the horizon of the human mind tremendously and has helped in the understanding, to some extent, of nature and the physical world. It is a vehicle today of exact scientific thought. India has had the good fortune in the past to produce some very eminent mathematicians. I hope that the conferences that are being held in Bombay will foster this intellectual activity in the higher spheres of the mind and thus help in the progress of humanity.

Jawaharlal Nehru

New Delhi,
5th February, 1956.

THE INDIAN MATHEMATICAL SOCIETY

MALLESWARAM

M. T. NARANIENGAR, M.A.
PRESIDENT

19th July 1932.

It gives me very great pleasure to bear testimony to the distinguished career of Mr. B. S. Madhava Rao, M.S. Acting Professor of Mathematics, College of Engineering, Bangalore. As a student of the Central College in the B.Sc. Classes, he made his mark. He easily secured a First Class in Mathematics in the B.Sc. Degree Examination and thereafter proceeded to Calcutta for higher studies. His diligence was rewarded at the Calcutta University in an even greater degree. He took First Class Honours in M.Sc. there and covered himself & the Central College with glory.

On his return to Mysore from Calcutta, he was awarded a University Research Scholarship by the Mysore University and attached himself to the Central College. After working in that capacity for a period, he was appointed a Lecturer in Mathematics in the Mysore University. Since then, he has been on the University Staff continuously and has risen to the present position of 'Acting Professor', by dint of intelligence and hard work. He has put in nearly ten years of service now and I have no hesitation in saying that, during these years, his knowledge has expanded considerably and that he has, with his keenness and eagerness as a student, kept himself

himself well posted with details of modern developments of Mathematical Science.

He has taken active part in the Research Work of the Indian Mathematical Society and of the Indian Science Congress.

I consider that he is a very fit candidate for a 'Foreign Research Scholarship' out of the Tatas Endowments, by virtue of his attainments and long record of brilliant achievement.

M. C. Narasimhaiah,

President, Indian Math. Socy.
and Retired University Professor
Central College, Bangalore.

University of Mysore



RAO BAHADUR

B. VENKATESACHAR, M.A.

PROFESSOR OF PHYSICS

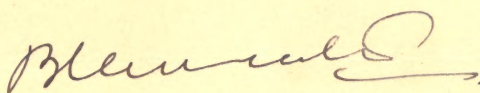
DEPARTMENT OF PHYSICS

CENTRAL COLLEGE

BANGALORE

19th J u l y 1932.

Mr. B.S. Madhava Rao is well known to me as a student in the Physics classes and as a colleague. His academic qualifications have been adequately described by Sir C.V. Raman in his certificate. I may bear testimony to the high intelligence and Mathematical equipment of Mr. Madhava Rao. I consider him one of the best students that came under my notice. He is the right kind of person who should be deputed to European Universities for carrying on research.


Professor of Physics.



Max Born
18.3.36.

by Cyril & Kate
Bangalore.

